

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

# UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	1391-27809
First Inventor	Christopher Jones
Title	Method and Apparatus for Performing Rapid Isotopic Analysis Via Laser Spectroscopy
Express Mail Label No.	EV 303482027 US

## APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

## ADDRESS TO:

Mail Stop Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria VA 22313-1450

- ☒ Fee Transmittal Form (e.g., PTO/SB/17)  
(Submit an original and a duplicate for fee processing)
- ☐ Applicant claims small entity status.  
See 37 CFR 1.27.
- ☒ Specification [Total Pages 30]  
(preferred arrangement set forth below)
  - Descriptive title of the invention
  - Cross Reference to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to sequence listing, a table, or a computer program listing appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claim(s)
  - Abstract of the Disclosure
- ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 1]
- Oath or Declaration [Total Sheets 2]
  - ☐ Newly executed (original or copy)
  - ☒ Copy from a prior application (37 CFR 1.63(d))  
(for continuation/divisional with Box 18 completed)
    - ☐ **DELETION OF INVENTOR(S)**  
Signed statement attached deleting inventor(s) name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
- ☒ Application Data Sheet. See 37 CFR 1.76

- ☐ CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)
- Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
  - ☐ Computer Readable Form (CRF)
  - Specification Sequence Listing on:
    - ☐ CD-ROM or CD-R (2 copies); or
    - ☐ Paper
  - ☐ Statements verifying identity of above copies

## ACCOMPANYING APPLICATION PARTS

- ☐ Assignment Papers (cover sheet & document(s))
- ☐ 37 CFR 3.73(b) Statement ☐ Power of Attorney  
(when there is an assignee)
- ☐ English Translation Document (if applicable)
- ☐ Information Disclosure Statement (IDS)/PTO-1449 ☐ Copies of IDS Citations
- ☒ Preliminary Amendment
- ☒ Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)
- ☐ Certified Copy of Priority Document(s)  
(if foreign priority is claimed)
- ☐ Nonpublication Request under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.
- ☒ Other: Affidavit of Christopher Jones (with 3 attachments)

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:

☒ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: 10/083,282

Prior application information: Examiner Otilia Gabor


Art Unit: 2878

For CONTINUATION OF DIVISIONAL APPS only; The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

## 19. CORRESPONDENCE ADDRESS

☒ Customer Number: 23505 OR ☐ Correspondence address below

Name			
Address			
City	State	Zip Code	
Country	Telephone	Fax	

Name (Print/Type)	<u>Red T. Tumey</u>	Registration No. (Attorney/Agent)	<u>47,146</u>
Signature		Date	<u>March 1, 2004</u>

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

120855/1391-27809

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

# FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ ) 1,576.00

## Complete if Known

Application Number	Not Yet Assigned
Filing Date	HEREWITH
First Named Inventor	Christopher Jones
Examiner Name	Not Yet Assigned
Art Unit	Not Yet Assigned
Attorney Docket No.	1391-27809

## METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number 03-2769

Deposit Account Name Conley Rose, P.C.

The Director is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments

☒ Charge any additional fee(s) or any underpayment of fee(s)

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION

### 1. BASIC FILING FEE

Large Entity Fee Code	Small Entity Fee Code	Fee Description	Fee Paid
1001 770	2001 385	Utility filing fee	770.00
1002 340	2002 170	Design filing fee	
1003 530	2003 265	Plant filing fee	
1004 770	2004 385	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
SUBTOTAL (1)			(\$ ) 770.00

### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
60	-20** = 40	X 18	= 720
Independent Claims 4	-3** = 1	X 86	= 86
Multiple Dependent			

Large Entity Fee Code	Small Entity Fee Code	Fee Description	Fee Paid
1202 18	2202 9	Claims in excess of 20	
1201 86	2201 43	Independent claims in excess of 3	
1203 290	2203 145	Multiple dependent claim, if not paid	
1204 86	2204 43	** Reissue independent claims over original patent	
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)			(\$ ) 806.00

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
1051 130		2051 65		Surcharge - late filing fee or oath	
1052 50		2052 25		Surcharge - late provisional filing fee or cover sheet	
1053 130		1053 130		Non-English specification	
1812 2,520		1812 2,520		For filing a request for ex parte reexamination	
1804 920*		1804 920*		Requesting publication of SIR prior to Examiner action	
1805 1,840*		1805 1,840*		Requesting publication of SIR after Examiner action	
1251 110		2251 55		Extension for reply within first month	
1252 420		2252 210		Extension for reply within second month	
1253 950		2253 475		Extension for reply within third month	
1254 1,480		2254 740		Extension for reply within fourth month	
1255 2,010		2255 1,005		Extension for reply within fifth month	
1401 330		2401 165		Notice of Appeal	
1402 330		2402 165		Filing a brief in support of an appeal	
1403 290		2403 145		Request for oral hearing	
1451 1,510		1451 1,510		Petition to institute a public use proceeding	
1452 110		2452 55		Petition to revive - unavoidable	
1453 1,330		2453 665		Petition to revive - unintentional	
1501 1,330		2501 665		Utility issue fee (or reissue)	
1502 480		2502 240		Design issue fee	
1503 640		2503 320		Plant issue fee	
1460 130		1460 130		Petitions to the Commissioner	
1807 50		1807 50		Processing fee under 37 CFR 1.17(q)	
1806 180		1806 180		Submission of Information Disclosure Stmt	
8021 40		8021 40		Recording each patent assignment per property (times number of properties)	
1809 770		2809 385		Filing a submission after final rejection (37 CFR 1.129(a))	
1810 770		2810 385		For each additional invention to be examined (37 CFR 1.129(b))	
1801 770		2801 385		Request for Continued Examination (RCE)	
1802 900		1802 900		Request for expedited examination of a design application	

Other fee (specify) \_\_\_\_\_

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ ) 00.00

## SUBMITTED BY

Name (Print/Type)	Tod T. Turney	Registration No. (Attorney/Agent)	47,146	Telephone	713-238-8000
Signature		Date	March 1, 2004		

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

120872/1391-27809

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Christopher Jones, et al.	§		
		§		
Serial No.:	Not Yet Assigned	§	Group Art Unit:	Not Yet Assigned
		§		
Filed:	Herewith	§	Examiner:	Not Yet Assigned
		§		
For:	Method and Apparatus for	§	Confirmation No.:	Not Yet Assigned
	Performing Rapid Isotopic	§		
	Analysis Via Laser Spectroscopy	§		

**AFFIDAVIT OF CHRISTOPHER JONES**

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Our File Number: 1391-27809  
Date: March 1, 2004

Sir:

I, Christopher Jones, state as follows:

1. I am over 18 years of age and competent to make this Affidavit.
2. I have been employed by the assignee of this invention since January 2001.
3. My current job title is Chemist.
4. I have a M.S. in Analytical Chemistry.
5. I am an expert in the field of rapid isotopic analysis via laser spectroscopy.
6. I am one of the co-inventors in the above-identified patent application.
7. The mathematical steps to calculate isotopic enrichment or depletion from downstream optical detector signals would be readily understood by one of ordinary skill in the art of rapid isotopic analysis via laser spectroscopy.
8. Once the downstream optical detector signals are received by the microprocessor, the mathematical steps to calculate isotopic enrichment or depletion for the present invention are the same as the mathematical steps for calculating isotopic enrichment or depletion in Isotopic Ratio Mass Spectroscopy.
9. Isotopic Ratio Mass Spectroscopy, which is disclosed in the present specification, is a method for calculating isotopic composition and often includes calculating enrichment or depletion

of isotopes, *see* Woltemate, et al., "Carbon and Hydrogen Isotopic Composition of Bacterial Methane in a Shallow Freshwater Lake," *Limnol Oceanogr.*, pgs. 985-992 (1984); Blair, "The  $\delta^{13}\text{C}$  of Biogenic Methane in Marine Sediments: the Influence of  $\text{C}_{\text{Org}}$  Deposition Rate," *Chemical Geology*, pgs. 139-150 (1998); Berner, et al., "Primary Cracking of Algal and Landplant Kerogens: Kinetic Models of Isotope Variations in Methane, Ethane, and Propane," *Chemical Geology*, pages 233-245 (1995) (highlighted copies of which are attached for the Examiner's convenience).

10. It would be readily understood by one of ordinary skill in the art how to use the mathematical steps of calculating enrichment or depletion of isotopes in Isotopic Ratio Mass Spectroscopy to calculate isotopic enrichment or depletion from the optical detector signals of the present invention.

11. Hence, the disclosure is sufficient to one of ordinary skill in the art to calculate enrichment or depletion of the isotope from the optical detector signals.

12. I further declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code and may jeopardize the validity of the application or any patent issued thereon.

Date: Feb 26, 2004

Christopher Jones  
Christopher Jones